Defense Information Systems Agency
Department of Defense

Computing Services and Assured Computing

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Chief of Operations
1 May 2006

Overview

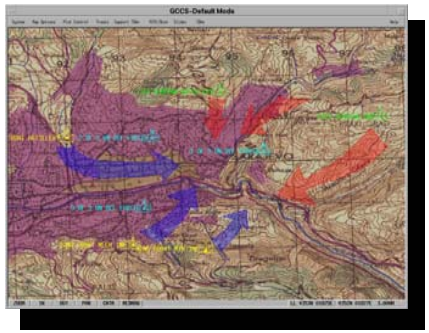
- Computing Services
  - Background
  - Computing environment
  - Chain of Command
- Assured computing
  - -Defined
  - -Data and Software
  - -Facilities
  - -Communications
  - -Processes
- Net-Centricity
- Summary

Mission Statement

Computing Services

“To deliver computing information products and services that enable and enhance the war-fighters’ ability to execute the mission.”

We run IT Systems that:



provide command and control

provision ships

provide medical care

manage parts and replenish supplies

manage transportation

pay the warfighters

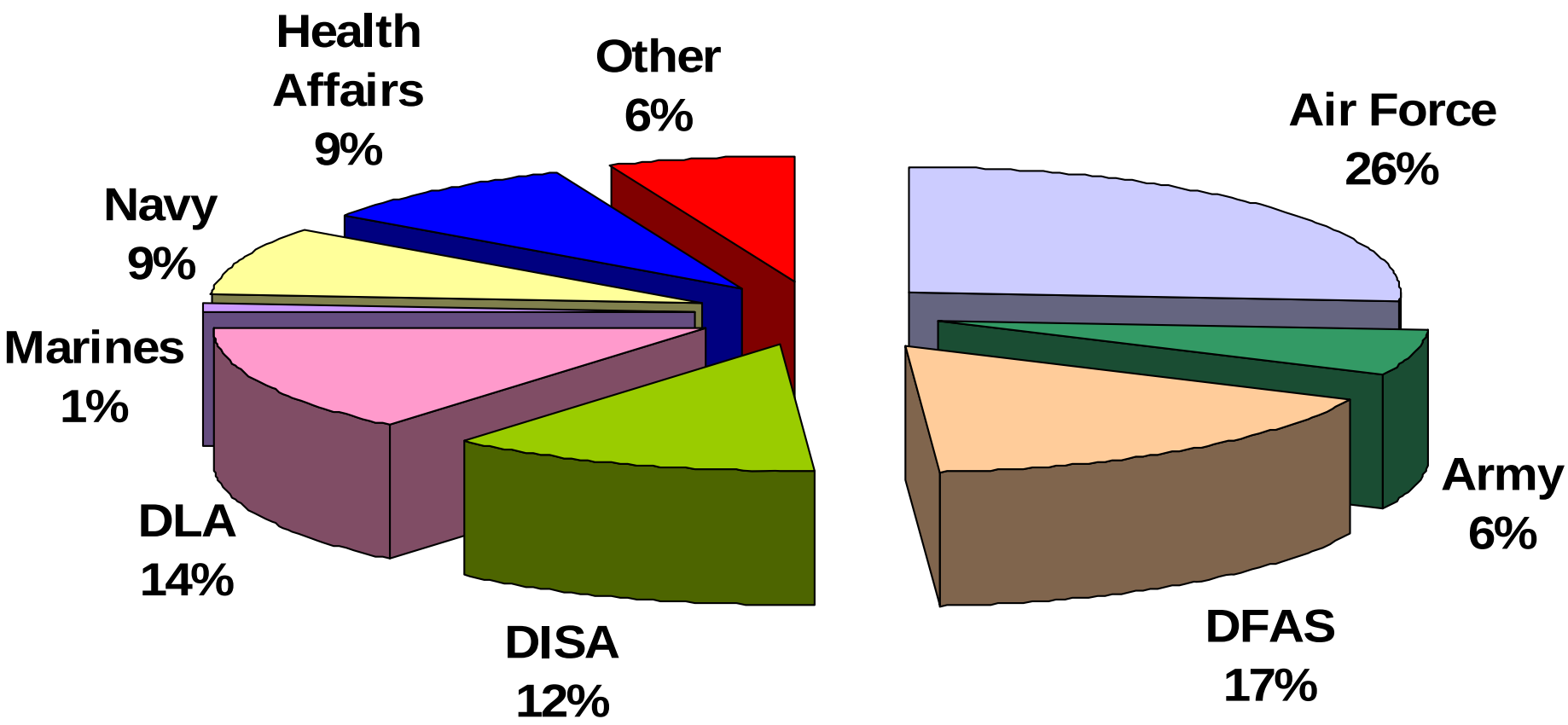
manage maintenance

Our Battlefield

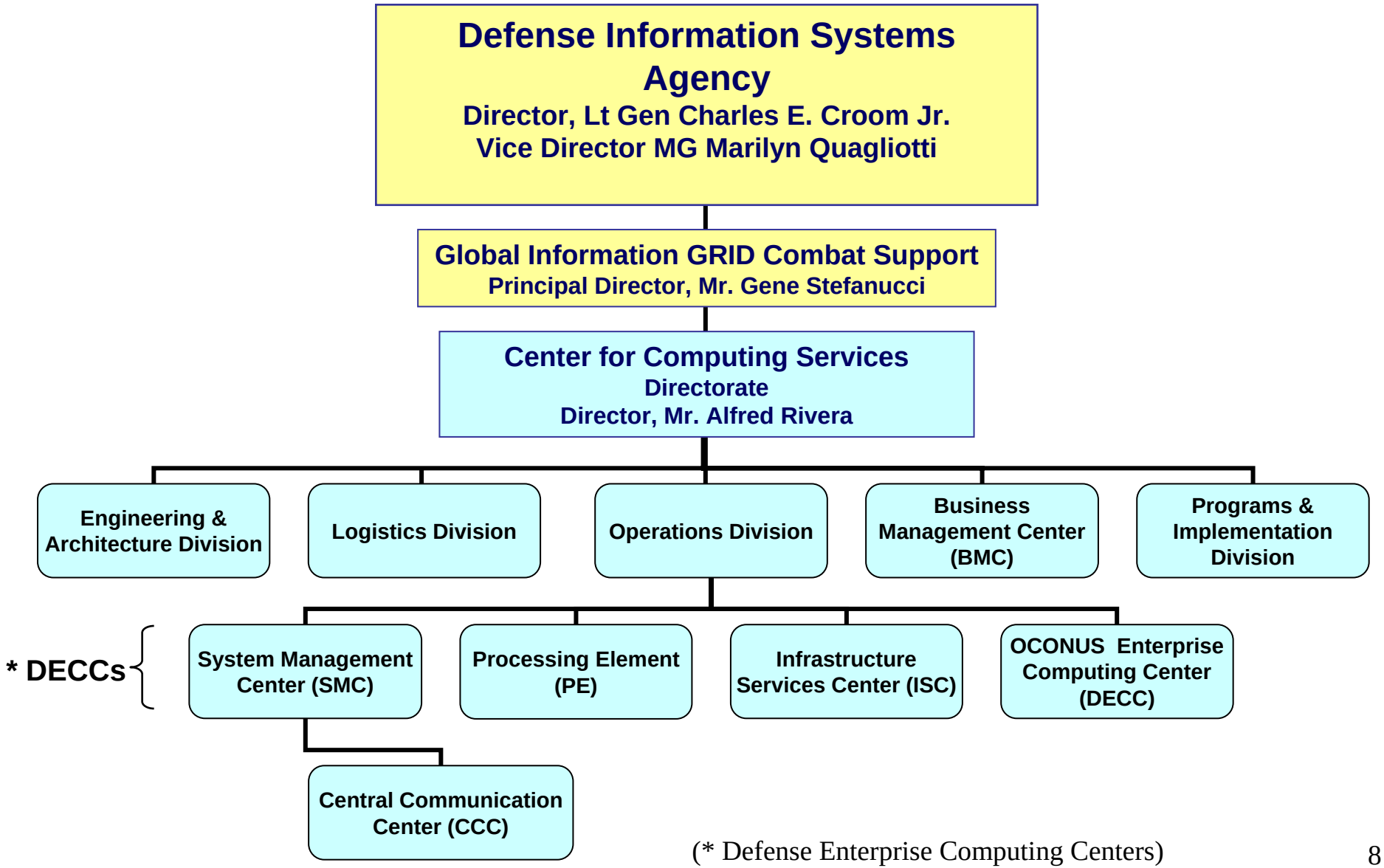
- 3.2 million+ registered users
- 1,400 applications
- 18 facilities
- 180 software vendors
- 18,000+ copies of executive software products
- Virtually every type of mainframe and server
  - 45 mainframes and 4,600+ servers
- Every type of storage device
- Supporting dozens of development activities
- $700 million annual budget

Geographic Locations

Workloads by Customer

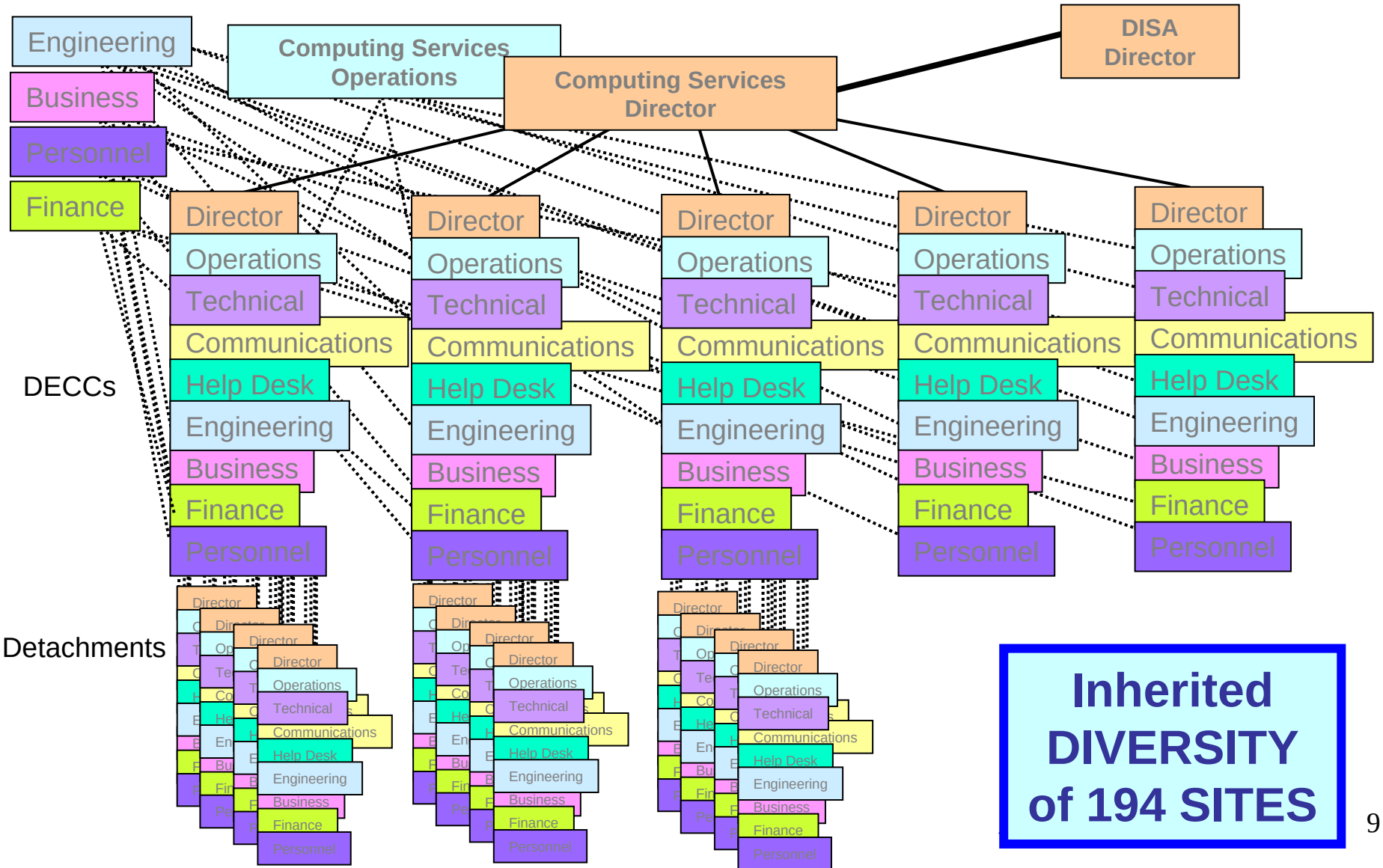


Chain of Command

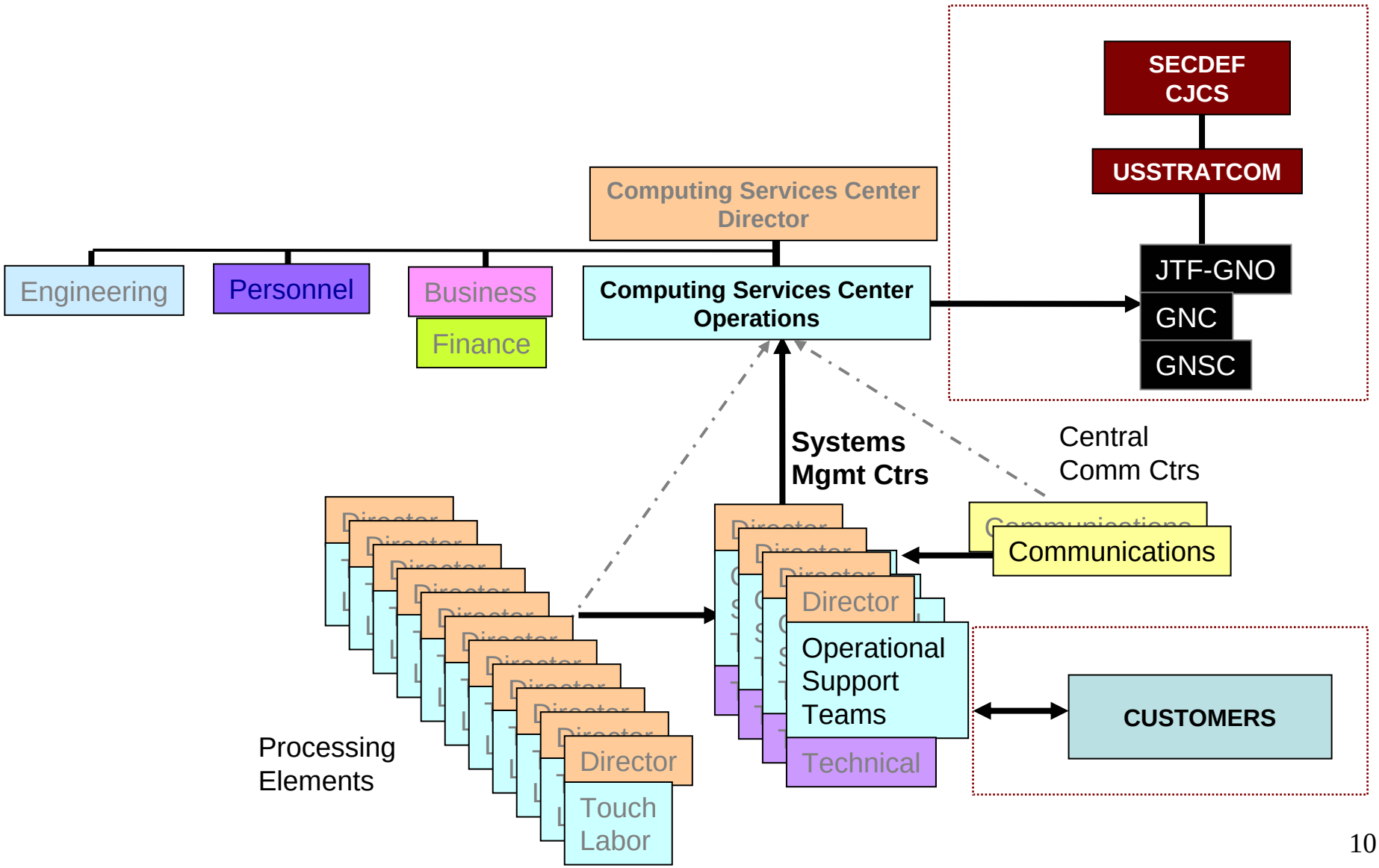


(* Defense Enterprise Computing Centers)

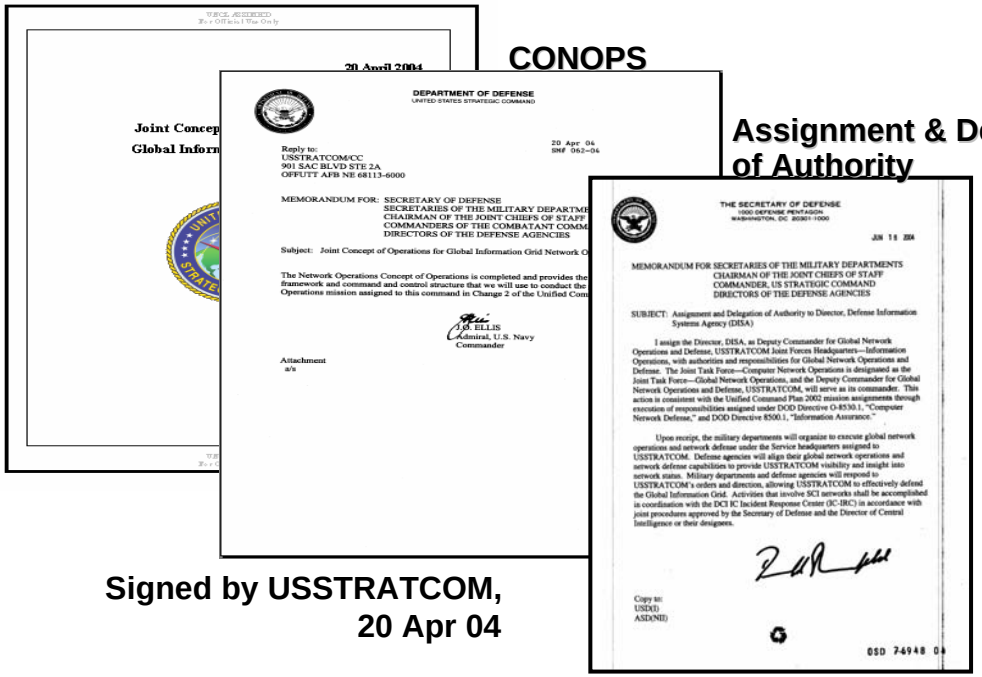
Pre-Transformation Reporting Chain



Post-Transformation Reporting Chain

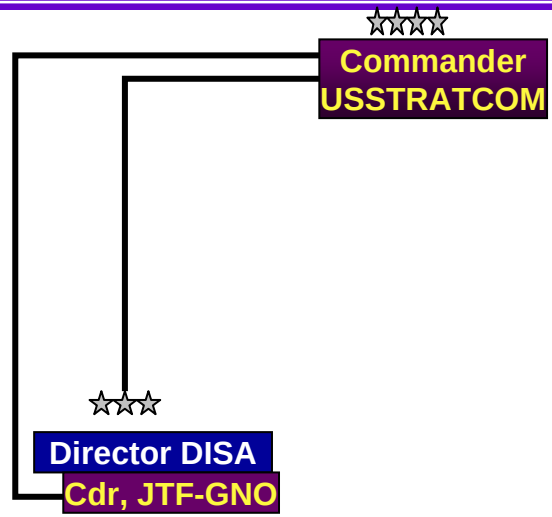


USSTRATCOM – DISA



Signed by USSTRATCOM, 20 Apr 04

Signed by SECDEF, 18 Jun 04



- Operate & Defend the GIG
- Sustain, Maintain, Equip Theater NetOps Centers
- Develop Technical NetOps Solutions

SECDEF designated DISA Director as Commander, JTF-Global Network Operations

One Team, One Fight

Assured Computing

Importance and Combat

- **The last two decades --**
  - **Increasing day-to-day reliance on IT by warfighter**
  - **Information has become fundamental to prosecution of the nation's will**
    - **Inextricably threaded into warfighter processes**
    - **Enables joint task force deployment, employment, sustainment**

- **Warfighter IT support today**
  - **A single system of data processing**
  - **Systems known as "combat support" now essential to successful combat operations**

Decreasing Tolerance for Down Time

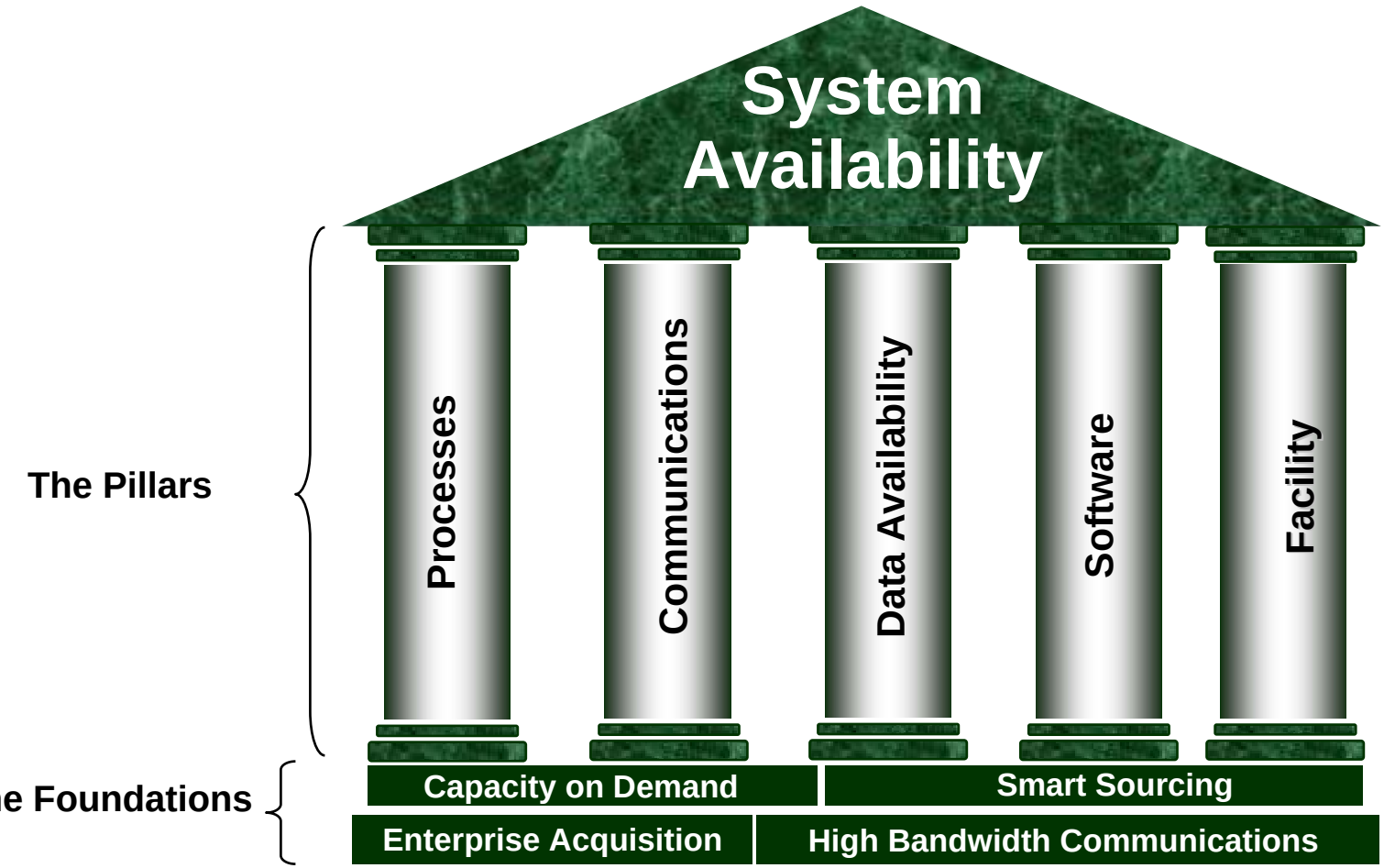
"We need to prevent disruptions, and when they occur, we need to make sure they are infrequent, short, and manageable."

Thomas Ridge, Director of Home Security Act

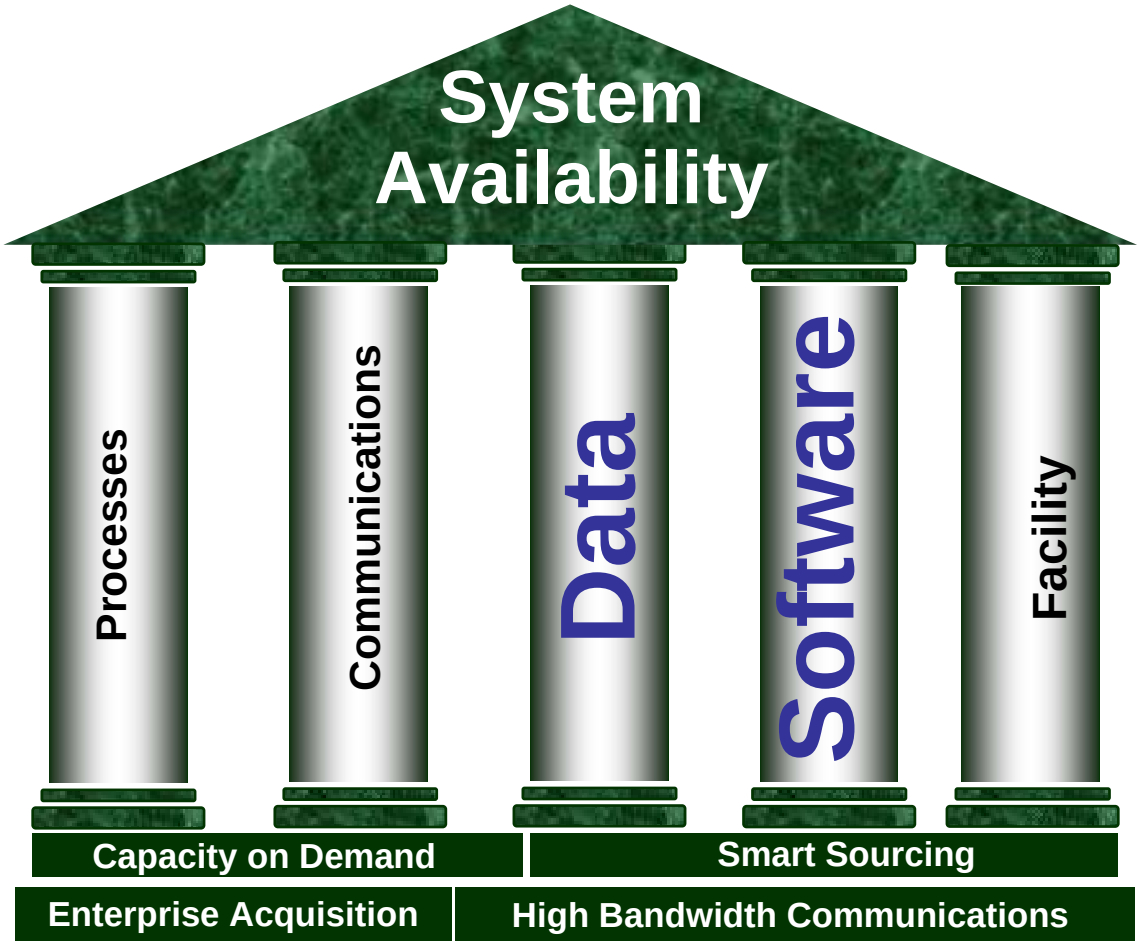
The Answer…. Assured Computing

Non-disruptive service to the end user, achieved through reliable, secure, and virtualized processing and networking environments.

Assured Computing



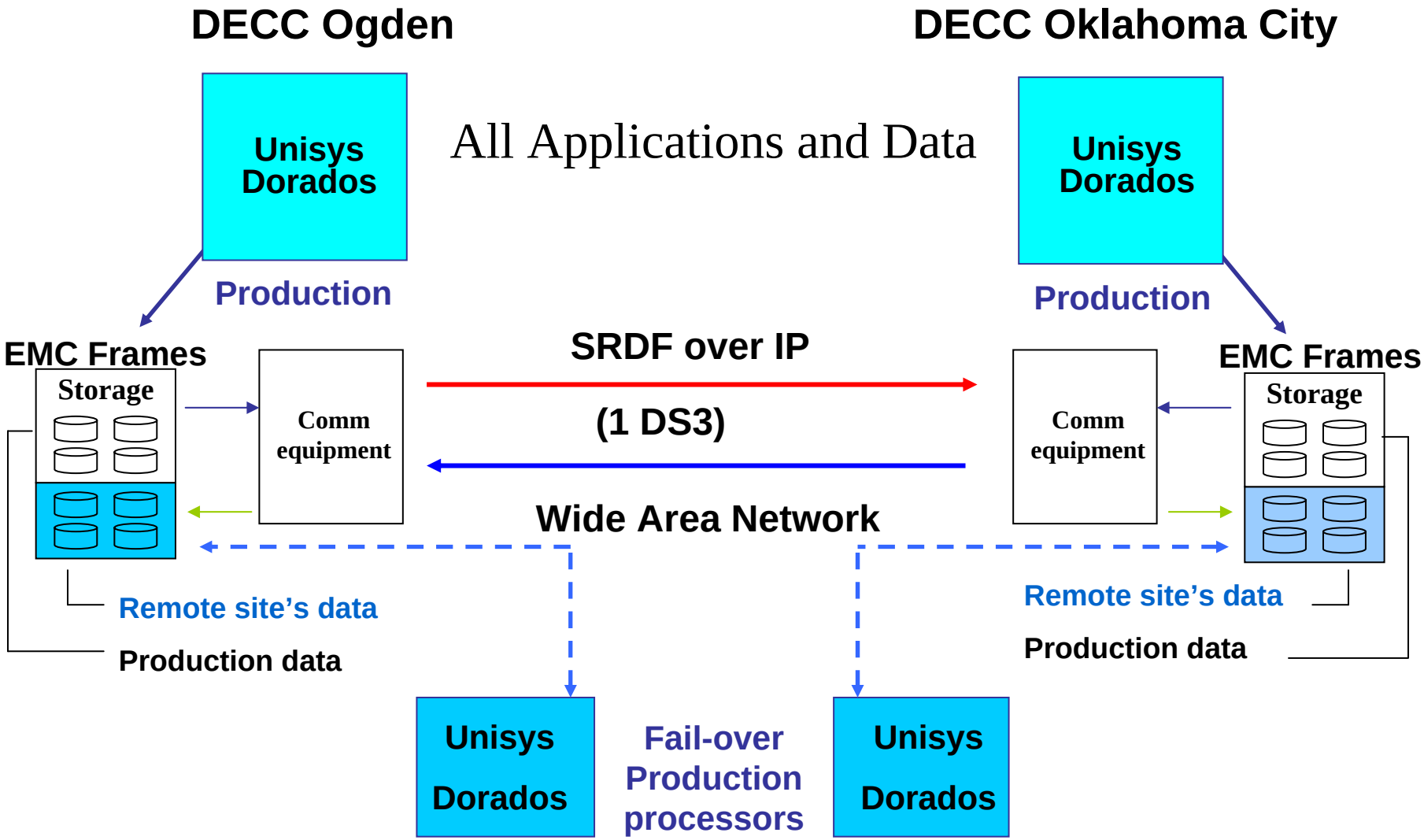
Assured Computing



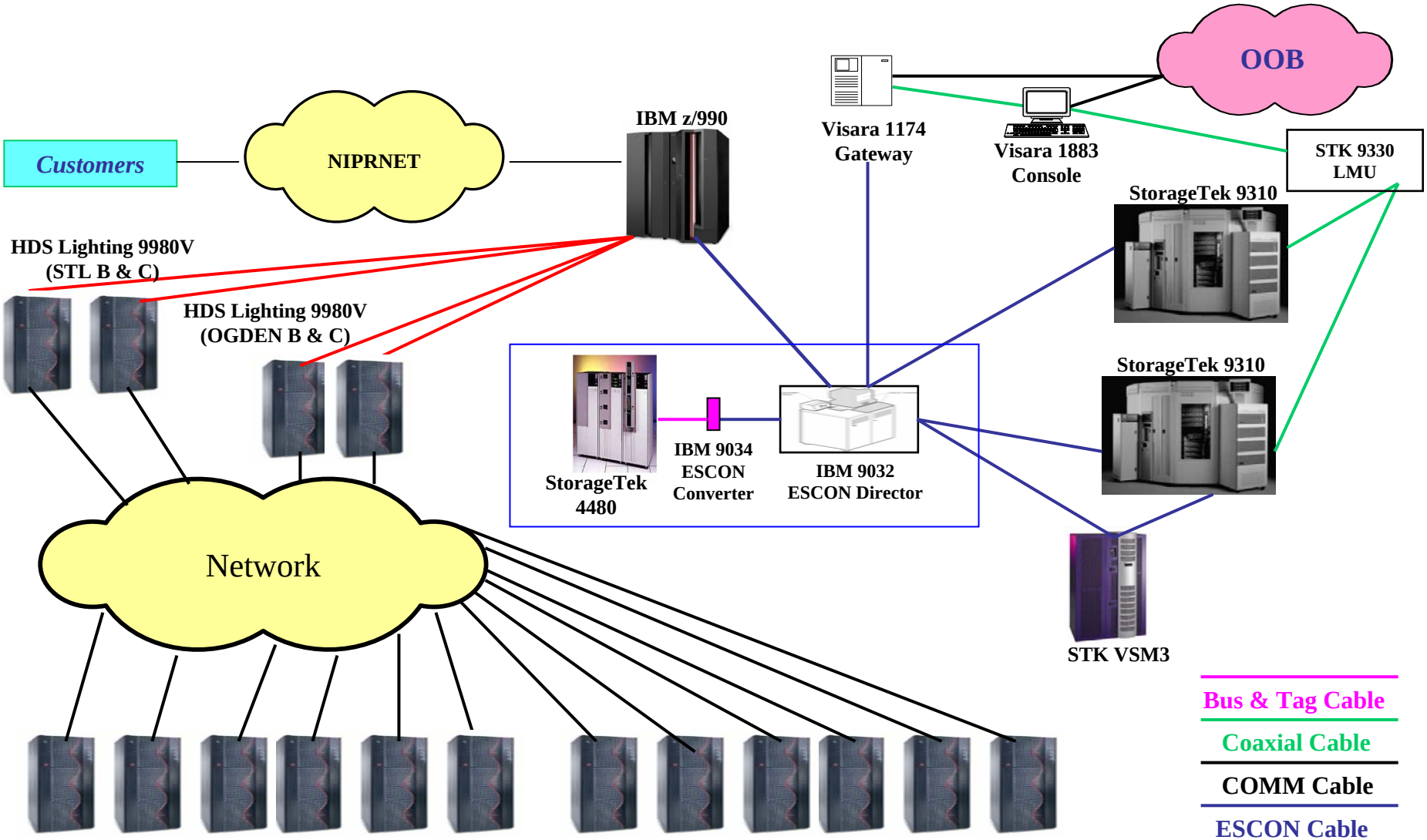
Data and Application Replication

- **Unisys mainframes**
  - **Application and data replication between DECCs operational since Dec 2001**
    - **24 TB < 2 min data loss**
- **IBM mainframes**
  - **Application and data replication between DECCs operational since Sep 2005**
    - **83 TB < 1 sec data loss**
    - **Also includes backup CPUs, capacity for production and testing, silo capacity, and peripheral support**
- **Servers – case by case**

Mainframe Example Unisys



Mainframe Example IBM



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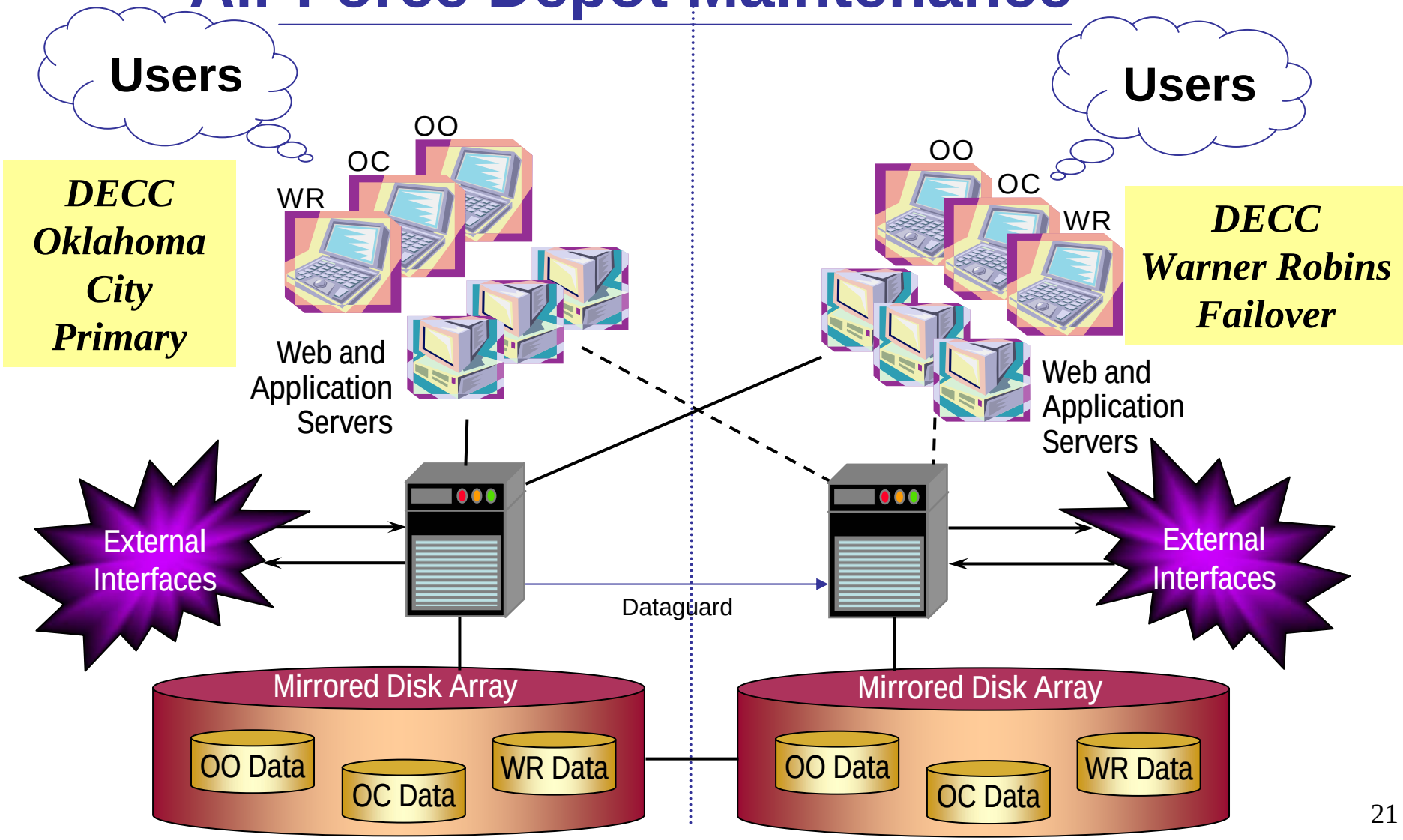
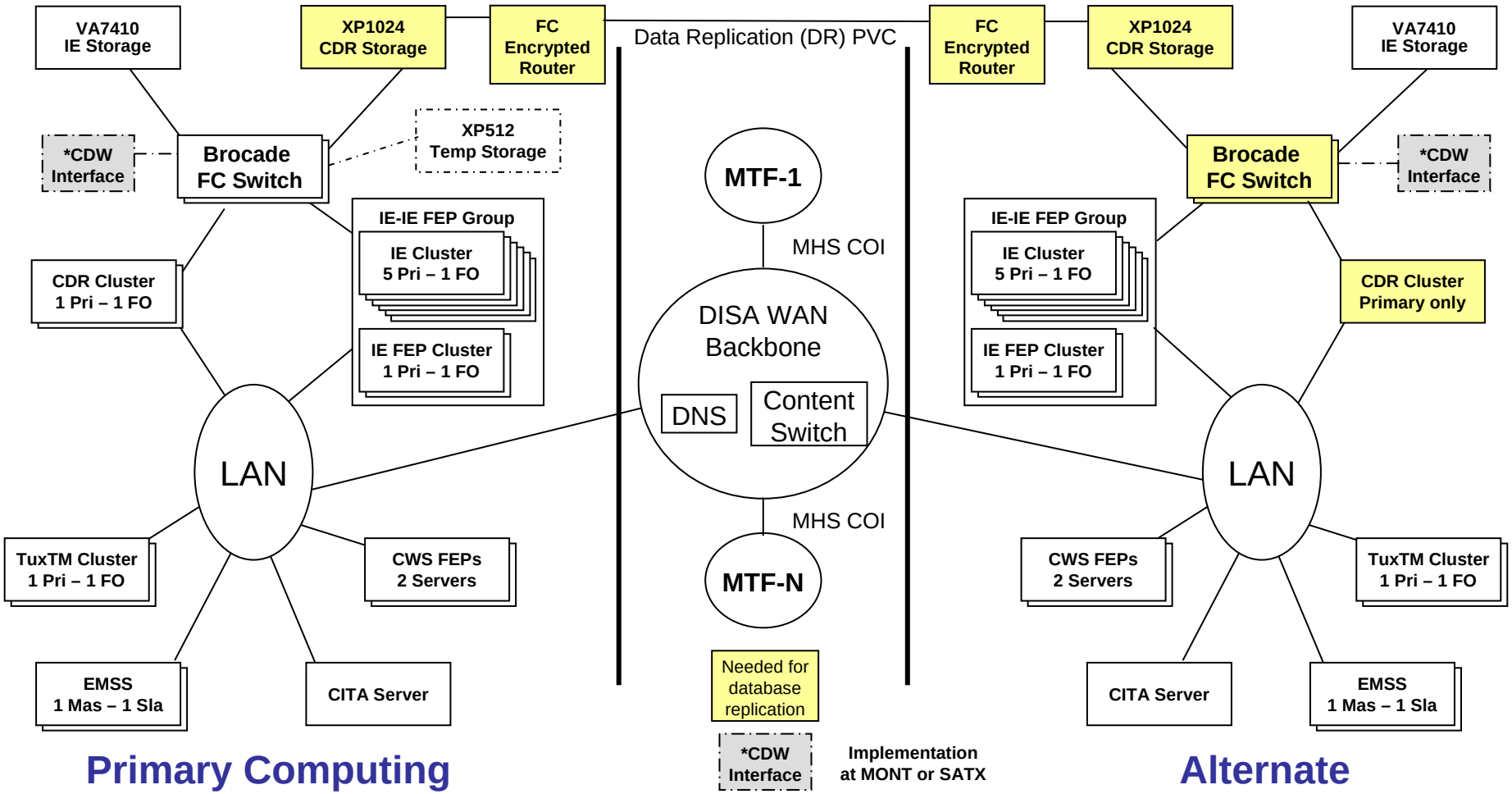
Server - Example 1

Air Force Depot Maintenance



Server - Example 2

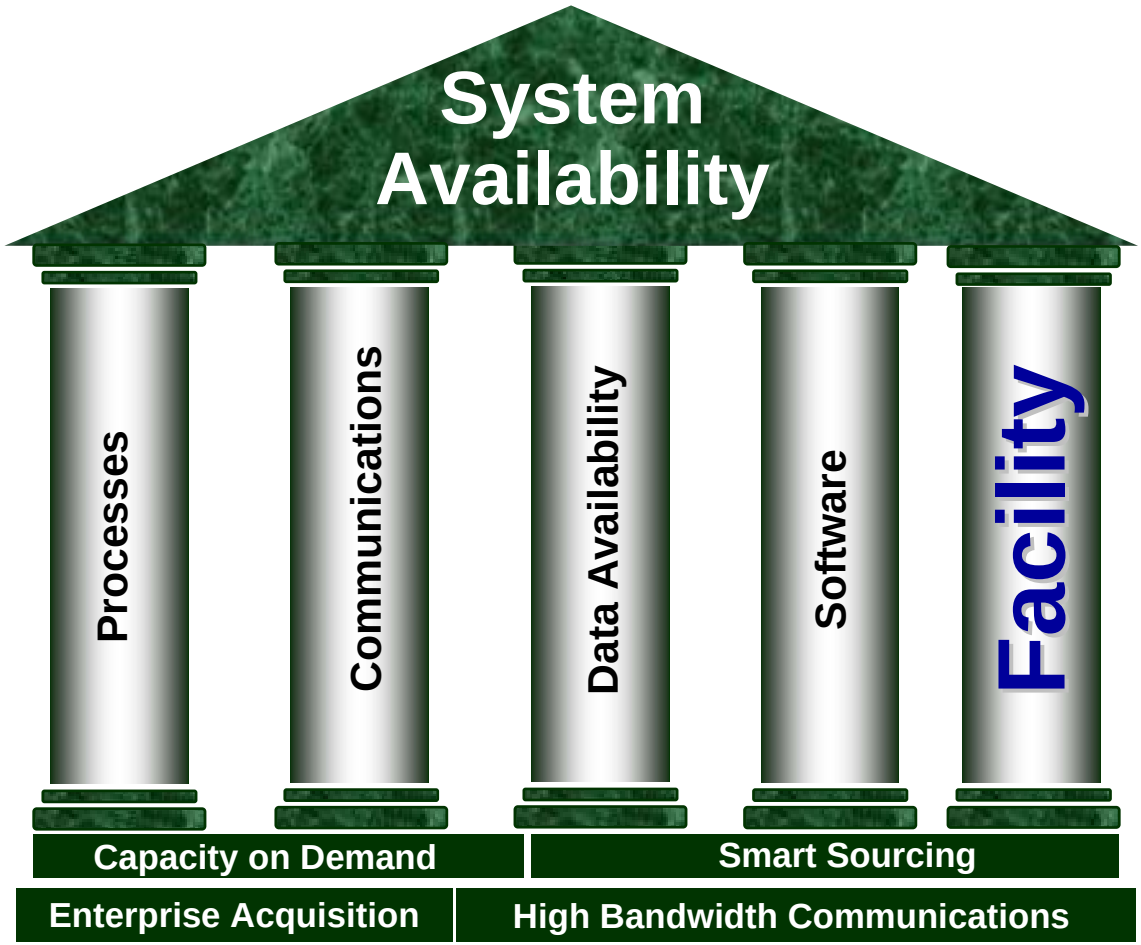
Ahlta (Military Health Care System)



Primary Computing Facility Montgomery

Alternate Computing Facility San Antonio

Assured Computing



Typical DECC Facility

DECC Oklahoma City

98,000 square feet; 68,500 of raised floor

Power Infrastructure

DECC Oklahoma City (as a typical DECC)

Sub Station A 12,470 Volt Feed

Automatic Transfer Switch

Sub Station B 12,470 Volt Feed

1200 Batteries/5000 kVA UPS

UPS Control Panel

Main Switch-Gear

Four 1750 kW Diesel Generators

22k Gallon Fuel Reserve

Facilities Environment

DECC Oklahoma City (as a typical DECC)

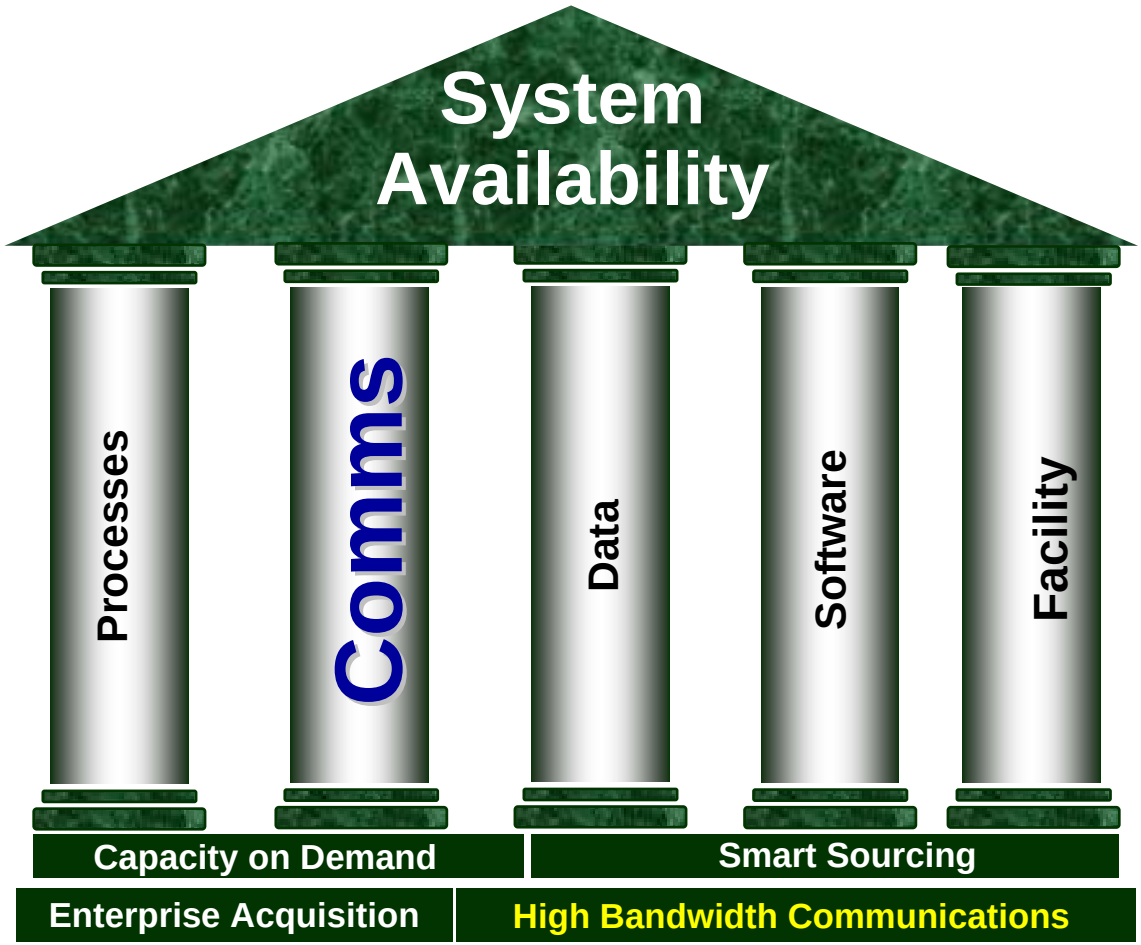
- **Engineered fault tolerant, high availability**
  - Four, 350-ton chillers and cooling towers provide 100 percent redundancy
  - 40 air units distribute conditioned air throughout facility
  - Power distributed to 25 power distribution modules
  - Dual, independent electrical feeds to each platform, - each platform with dual power supplies
- **"Smart" automated facility management system**
  - Moisture, under floor water, temperature sensors and alarms

Facility Security

- **Physical Security**
  - 24 x 7 Security Guards
  - Controlled/Alarmed Access
  - Security Cameras

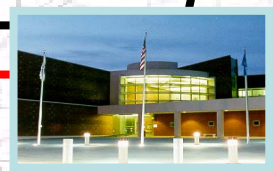
- **Information Assurance**
  - Security Professionals
  - DoD/NSA Compliant Policies and Tools
  - Security Readiness Reviews
  - Network Monitoring / Intrusion Detection

Assured Computing



Wide Area Network

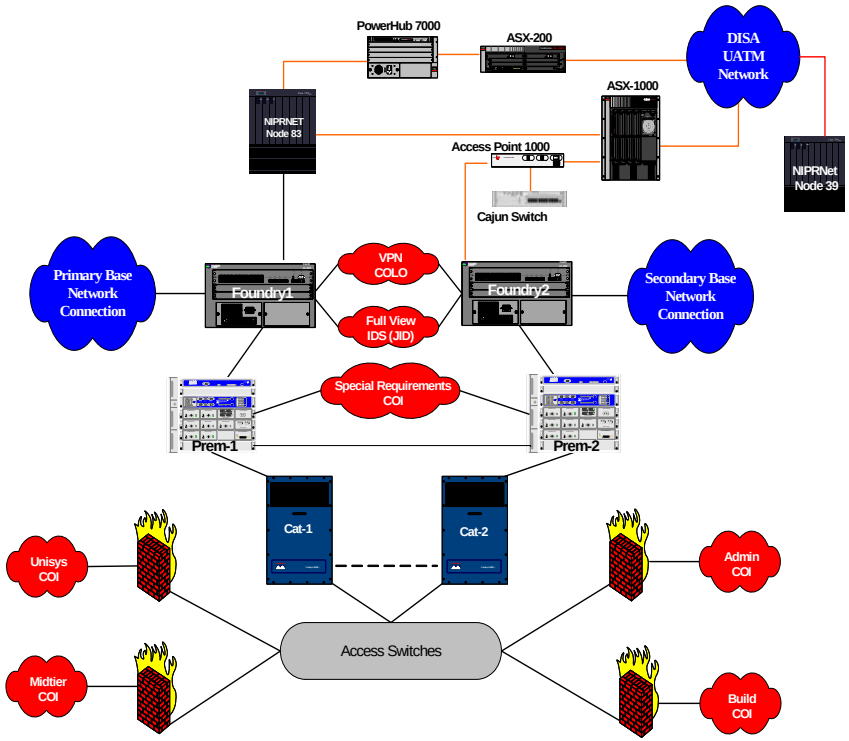
DECC Oklahoma City (as a typical DECC)



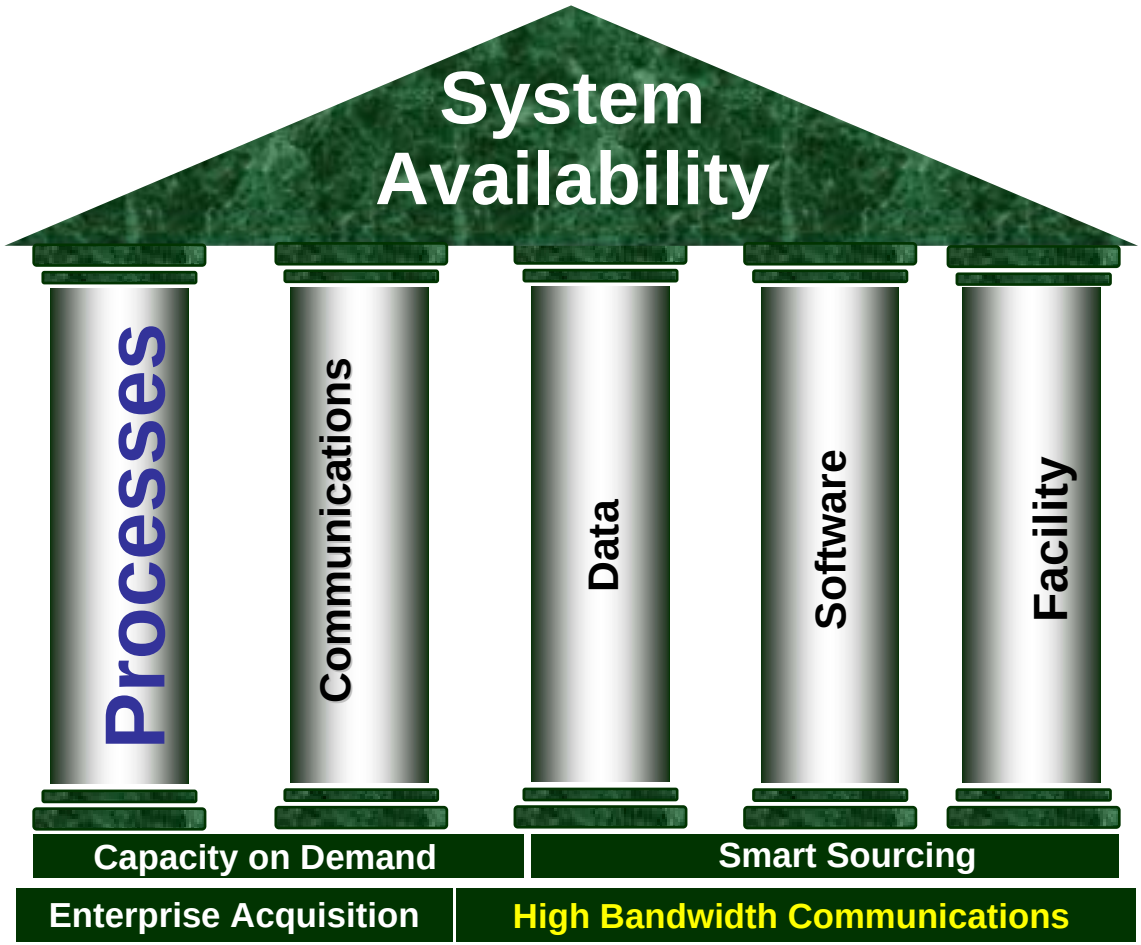
- Vendor Diversity (COX + SBC)
- Path Redundancy
- Self-healing fiber architecture
- High bandwidth (OC192)

Internal DECC Network

- **Local Infrastructure**
  - **Redundant DISN hubs**
  - **Redundant NIPRNet core routers**
  - **Fault-tolerant internal routers and switches**
  - **Gigabit switching**
  - **Multiple Virtual Private Network implementations**
  - **Redundant SIPRNet connections**
  - **Separate management VPN**



Assured Computing



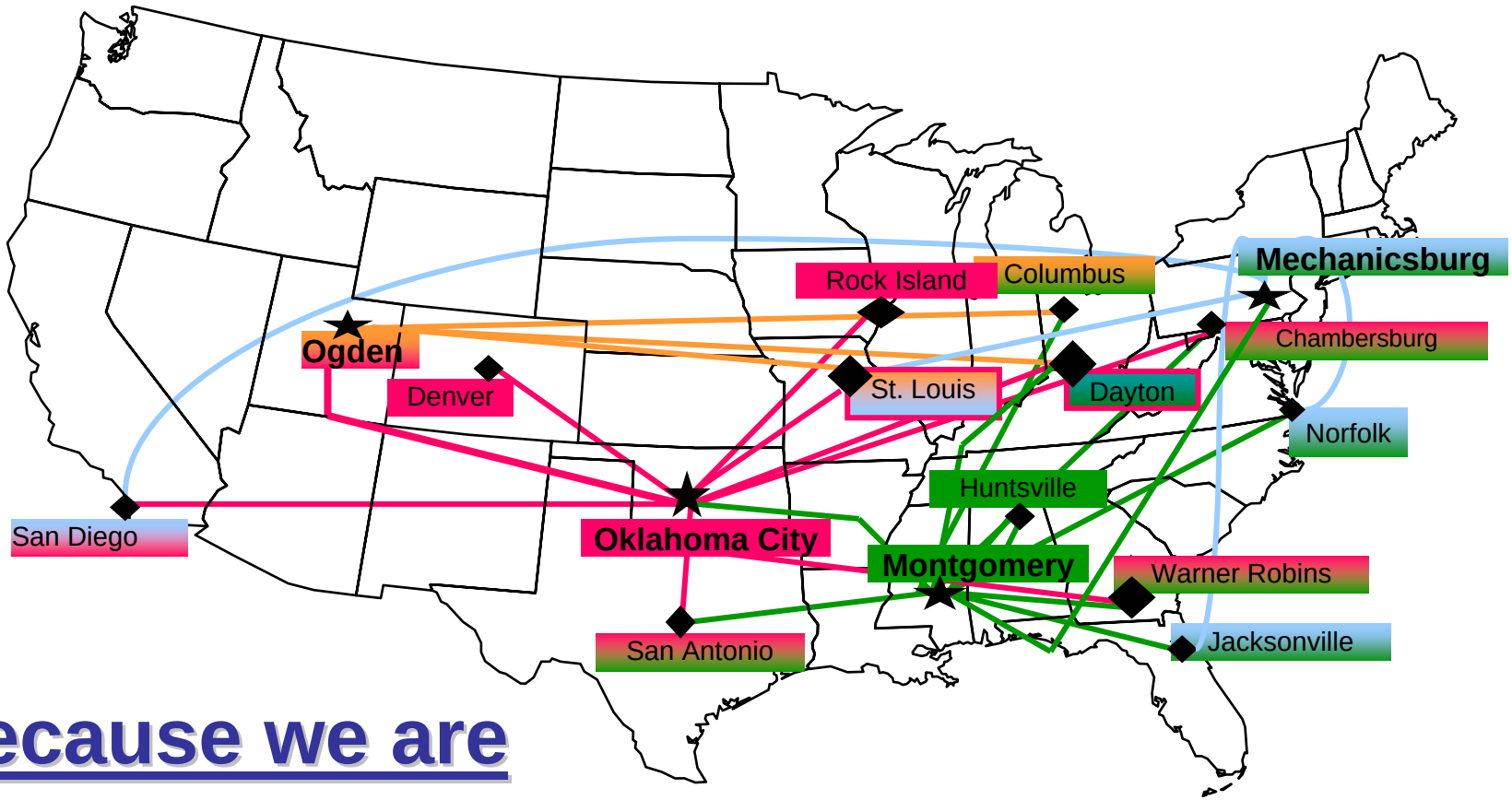
“Process” Tenants

- **Virtualized management: technical capability**
  - **From any location (secure)**
  - **Of all platforms/comms at any location (secure)**
- **Virtualized systems management: staff**
  - **Application, operating system, database, & communications expertise hot “failover”**
  - **Help desk hot “failover”**
- **COOP/BCP**
  - **Systems, sites, headquarters**
  - **Tested until SOP**

(= Net-Centricity)

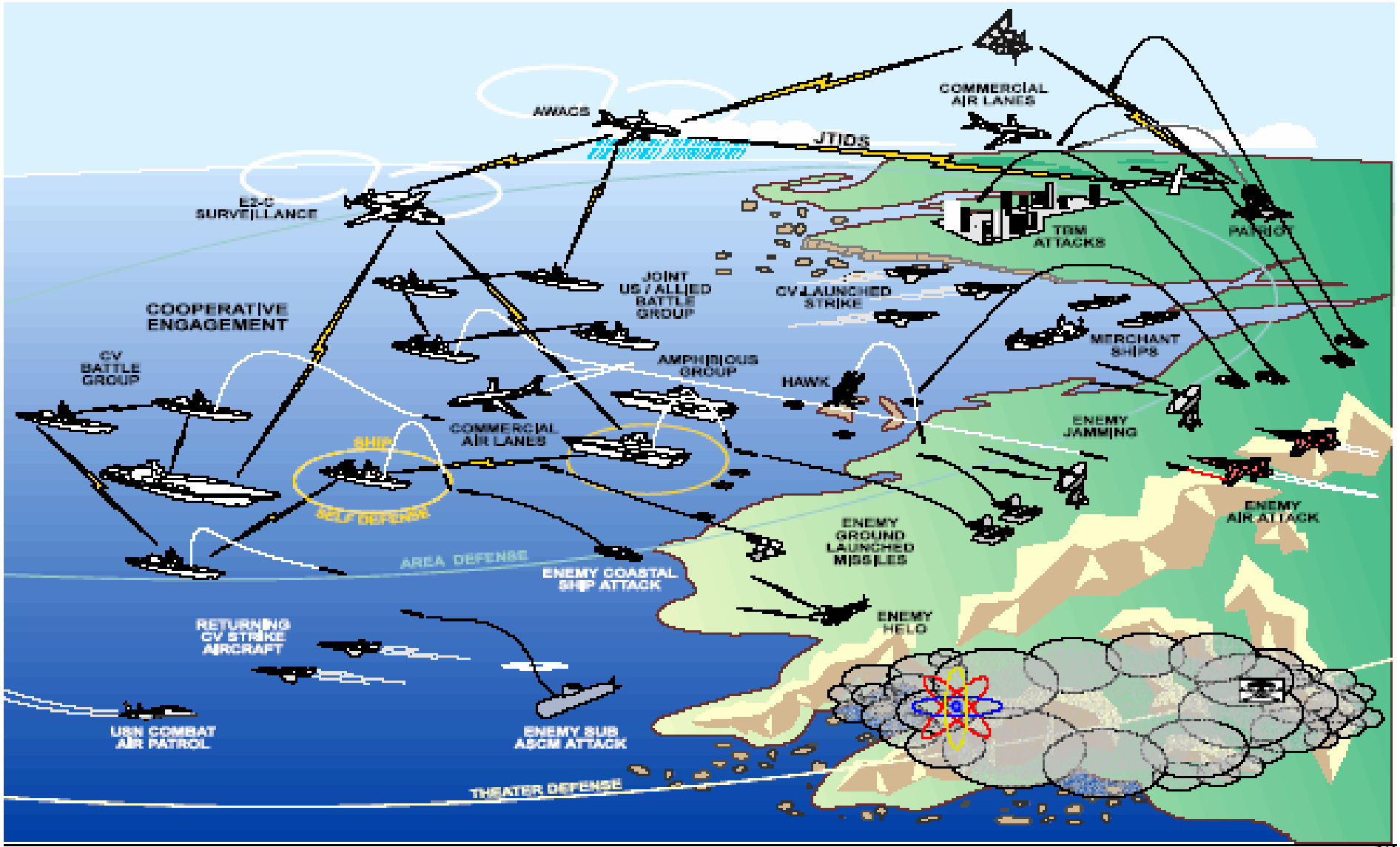
Within Computing Services:

- Geographic location has become irrelevant
- Management from anywhere is SOP



because we are

Supporting Net-Centric Warfare



Which Is

Who We Are
What We Do
Why We're Here

Summary

- **Assured Computing provides:**
  - **Net-centric computing and operations**
  - **Customer service and support**
  - **Information mart**
    - **Data availability**
    - **Data integrity**
    - **Data accessibility**
    - **Data recovery**
  - **Content to the ‘Edge’, around the globe**
- **Always “there” exactly when needed!**

www.disa.mil